

Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application (material to be inserted in amended claims is in underline, and material to be deleted is in ~~strikeout~~).

1. (Currently Amended) A microarray comprising:
a inorganic siloxy amine treated substrate
a diazotized tether group bound to a substrate; and
at least one polypeptide covalently bound to said diazotized tether group; wherein the polypeptide includes a his-tag.
2. (Currently amended) The microarray of claim 1, wherein said ~~polypeptide~~ his-tag includes at least one terminal histidine residue.
3. (Original) The microarray of claim 2, wherein said polypeptide is covalently bound to said diazotized tether group at said at least one terminal histidine residue.
4. (Currently Amended) The microarray of claim 2, wherein said ~~polypeptide~~ his-tag includes a terminal series of 6 histidine residues.
5. (Original) The microarray of claim 4, wherein said polypeptide is covalently bound to said diazotized tether group at one of said histidine residues.
6. (Currently Amended) The microarray of claim 2, wherein said ~~polypeptide~~ his-tag includes a terminal series of up to 20 histidine residues.
7. (Original) The microarray of claim 6, wherein said polypeptide is covalently bound to said diazotized tether group at one of said histidine residues.
8. (Currently Amended) The microarray of claim 1, wherein said polypeptide is bound to said diazotized tether group by an internal histidine residue of said polypeptide.
- 9-15. (Cancelled)
16. (Original) The microarray of claim 1, wherein said substrate comprises a glass substrate.
17. (Original) The microarray of claim 16, wherein said substrate comprises a glass

bead.

18. (Currently Amended) The microarray of claim [[14]] 16, wherein said substrate comprises a glass slide.

19. (Original) The microarray of claim 1, wherein said substrate comprises a polymer substrate.

20. (Original) The microarray of claim 19, wherein said substrate comprises a plastic substrate.

21. (Original) The microarray of claim 20, wherein said substrate comprises polyethylene terephthalate.

22. (Original) The microarray of claim 1, wherein said substrate comprises a silicon wafer.

23. (Original) The microarray of claim 1, wherein said substrate comprises a ceramic substrate.

24. (Original) The microarray of claim 1, wherein said substrate comprises a metal oxide substrate.

25. (Original) The microarray of claim 1, wherein said substrate comprises a clay substrate.

26-29. (Cancelled)

30. (Original) The microarray of claim 1, wherein said at least one polypeptide comprises a plurality of polypeptides.

31. (Original) The microarray of claim 30, wherein said plurality of polypeptides comprises at least two different polypeptides.

32. (Original) The microarray of claim 1, wherein said polypeptide comprises a protein.

33. (Original) The microarray of claim 1, wherein said substrate has a thickness of approximately 1 mm.

34. (Original) The microarray of claim 1, wherein said diazotized tether group comprises a siloxy diazonium group.

35. (Original) The microarray of claim 34, wherein said siloxy diazonium group comprises p-diazoniumphenyltrimethoxysilane salt.

36-102 (Cancelled)

103. (New) A microarray comprising:

an inorganic siloxy amine treated substrate;

a diazotized tether group bound to a substrate; and

at least one polypeptide covalently bound to said diazotized tether group; wherein the polypeptide is bound to the diazotized tether group by an exogenous tyrosine-tag, wherein the tyrosine-tag consists of a terminal series of one or more tyrosine residues.

104. (New) The microarray of claim 103, wherein the tyrosine tag consists of a single terminal tyrosine residue.

105. (New) The microarray of claim 104, wherein said polypeptide is covalently bound to said diazotized tether group at said terminal tyrosine residue.

106. (New) The microarray of claim 104, wherein the tyrosine tag consists of a terminal series of 6 tyrosine residues.

107. (New) The microarray of claim 106, wherein said polypeptide is covalently bound to said diazotized tether group at one of said 6 tyrosine residues.

108. (New) The microarray of claim 104, wherein said the tyrosine tag includes a terminal series of up to 20 tyrosine residues.

109. (New) The microarray of claim 108, wherein the tyrosine tag consists of 20 tyrosine residues.

110. (New) The microarray of claim 103, wherein said polypeptide is bound to said diazotized tether group at one of said 20 tyrosine residues.

111. (New) The microarray of claim 103, wherein said substrate comprises a glass substrate.

112. (New) The microarray of claim 111, wherein said substrate comprises a glass bead.

113. (New) The microarray of claim 111, wherein said substrate comprises a glass

slide.

114. (New) The microarray of claim 103, wherein said substrate comprises a polymer substrate.

115. (New) The microarray of claim 114, wherein said substrate comprises a plastic substrate.

116. (New) The microarray of claim 114, wherein said substrate comprises polyethylene terephthalate.

117. (New) The microarray of claim 103, wherein said substrate comprises a silicon wafer.

118. (New) The microarray of claim 103, wherein said substrate comprises a ceramic substrate.

119. (New) The microarray of claim 103, wherein said substrate comprises a metal oxide substrate.

120. (New) The microarray of claim 103, wherein said substrate comprises a clay substrate.

121. (New) The microarray of claim 103, wherein said at least one polypeptide comprises a plurality of polypeptides.

122. (New) The microarray of claim 121, wherein said plurality of polypeptides comprises at least two different polypeptides.

123. (New) The microarray of claim 103, wherein said polypeptide comprises a protein.

124. (New) The microarray of claim 103, wherein said substrate has a thickness of approximately 1 mm.

125. (New) The microarray of claim 103, wherein said diazotized tether group comprises a siloxy diazonium group.

126. (New) The microarray of claim 125, wherein said siloxy diazonium group comprises p-diazoniumphenyltrimethoxysilane salt.

127. (New) A microarray comprising:
an inorganic thiolate amine treated substrate;

a diazotized tether group bound to a substrate; and
at least one polypeptide covalently bound to said diazotized tether group;
wherein the polypeptide is bound to the diazotized tether group by either an
exogenous his-tag or an exogenous tyrosine tag.

128. (New) The microarray of claim 127, wherein the his-tag comprises at least one terminal histidine residue.

129. (New) The microarray of claim 128, wherein the polypeptide is covalently bound to the diazotized tether group at the at least one terminal histidine residue.

130. (New) The microarray of claim 128, wherein the his-tag includes a terminal series of 6 histidine residues.

131. (New) The microarray of claim 130, wherein said polypeptide is covalently bound to said diazotized tether group at one of the histidine residues.

132. (New) The microarray of claim 128, wherein the his-tag includes a terminal series of up to 20 histidine residues.

133. (New) The microarray of claim 132, wherein said polypeptide is covalently bound to said diazotized tether group at one of said histidine residues.

134. (New) The microarray of claim 127, wherein said polypeptide is bound to said diazotized tether group by an internal histidine residue of said polypeptide.

135. (New) The microarray of claim 127, wherein said polypeptide comprises a tyrosine tag comprising at least one terminal tyrosine residue.

136. (New) The microarray of claim 135, wherein said polypeptide is covalently bound to said diazotized tether group at said terminal tyrosine residue.

137. (New) The microarray of claim 135, wherein said polypeptide includes a terminal series of 6 tyrosine residues.

138. (New) The microarray of claim 137, wherein said polypeptide is covalently bound to said diazotized tether group at one of said tyrosine residues.

139. (New) The microarray of claim 135, wherein said polypeptide includes a terminal series of up to 20 tyrosine residues.

140. (New) The microarray of claim 139, wherein said polypeptide is covalently bound to said diazotized tether group at one of said tyrosine residues.
141. (New) The microarray of claim 127, wherein said polypeptide is bound to said diazotized tether group by an internal tyrosine residue of said polypeptide.
142. (New) The microarray of claim 127, wherein said substrate comprises a noble metal substrate.
143. (New) The microarray of claim 127, where the substrate is coated with a noble metal.
144. (New) The microarray of claim 142, wherein said substrate comprises a gold substrate.
145. (New) The microarray of claim 142, wherein said substrate comprises a silver substrate.
146. (New) The microarray of claim 142, wherein said substrate comprises a copper substrate.
147. (New) The microarray of claim 127, wherein said diazotized tether group comprises a thiolate diazonium group.
148. (New) The microarray of claim 147, wherein said thiolate diazonium group comprises p-diazoniuinthiophenol salt.